

Notice of Allowability

Application No.

10/705,495

Examiner

DANIEL G MARIAM

Applicant(s)

SILVER ET AL.

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to a telephone interview dated August 4, 2004.
2. ☒ The allowed claim(s) is/are 122-144 (will be renumbered as 1-23).
3. ☒ The drawings filed on 11/10/2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 11/10/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 08/04/2004 .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


DANIEL MIRIAM
PRIMARY EXAMINER

EXAMINER'S AMENDMENT AND ALLOWANCE

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Russ Weinzimmer (Reg. No. 36717) on August 4, 2004.

2. The application has been amended as follows:

Amend the specification as follows:

In page 2 of the amended specification, under the heading "Cross Reference to Related Application", delete ", which is a continuation-in-part to U.S. Patent Application Serial Number 09/979,588, filed 11/26/1997" - -

(Note: While applicants have canceled claims 1-120 of the originally filed claims by the amendment (See page 3 of the amendment), and have submitted newly added claims 121-143 (See pages 3-7 of the amendment), the originally filed claims in fact contain claims 1-121).

Cancel the originally filed claim 121.

Renumber the newly added claims **121-143 as 122-144**, after the following amendments to the newly added claims have been entered.

Amend the newly added claim 121 as follows:

At line 10, delete the limitation "adapted" and replace it with "configured" - -

At line 14, delete the limitation "adapted" and replace it with "configured" - -

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At line 14, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 122 as follows:

At line 2, delete the limitation “adapted” and replace it with “configured” - -

At line 3, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 123 as follows:

At line 2, delete the limitation “adapted” and replace it with “configured” - -

At line 3, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 125 as follows:

At line 2, delete the limitation “adapted” and replace it with “configured” - -

At line 5, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 126 as follows:

At line 2, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 129 as follows:

At line 3, delete the limitation “adapted” and replace it with “configured” - -

At line 7, delete the limitation “adapted” and replace it with “configured” - -

At line 12, delete the limitation “adapted” and replace it with “configured” - -

At line 14, delete the limitation “adapted” and replace it with “configured” - -

At line 17, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 131 as follows:

At line 3, delete the limitation “adapted” and replace it with “configured” - -

At line 6, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 135 as follows:

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At line 2, delete the limitation “adapted” and replace it with “configured” - -

At line 5, delete the limitation “adapted” and replace it with “configured” - -

At line 7, delete the limitation “adapted” and replace it with “configured” - -

At line 9, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 136 as follows:

At line 2, delete the limitation “adapted” and replace it with “configured” - -

At line 3, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 139 as follows:

At line 2, delete the limitation “adapted” and replace it with “configured” - -

At line 5, delete the limitation “adapted” and replace it with “configured” - -

At line 7, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 140 as follows:

At line 2, delete the limitation “adapted” and replace it with “configured” - -

At line 4, delete the limitation “adapted” and replace it with “configured” - -

Amend the newly added claim 141 as follows:

At line 3, delete the limitation “adapted” and replace it with “configured” - -

At line 7, delete the limitation “adapted” and replace it with “configured” - -

At line 12, delete the limitation “adapted” and replace it with “configured” - -

At line 14, delete the limitation “adapted” and replace it with “configured” - -

At line 17, delete the limitation “adapted” and replace it with “configured” - -

Allowance

3. Claims 122-144 are allowed. The claims will be renumbered as 1-23.
4. The following is an examiner's statement of reasons for allowance: none of the prior art of record teach or fairly suggest a geometric pattern matching apparatus for refining a starting pose of an object by having a stored model pattern, the stored model pattern including a geometric description of the expected shape of the object, the geometric description including a plurality of pattern boundary points, and a field of force vectors, the field being a vector-valued function of position that relates force vectors to pattern boundary points, and a sequential pose refinement module having an evaluate module, the evaluate module comprising:
a field strength evaluator configured to receive a force magnitude component of a force vector corresponding to an image boundary point, and an error signal, and configured to provide a confidence factor. It is for this reason and in combination of all of the other elements of the claims that claims 121-143 are allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G MARIAM whose telephone number is 703-305-4010. The examiner can normally be reached on M-F (7:00-4:30) FIRST FRIDAY OFF.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LEO BOUDREAU can be reached on 703-305-4607. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DANIEL MIRIAM
PRIMARY EXAMINER

August 6, 2004